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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/726,026

12/01/2003

Yi He

2669

24346

7590

03/23/2007

JAY CHESA VAGE
3833 MIDDLEFIELD
PALO ALTO, CA 94303

EXAMINER

CHIEM, DINH D

ART UNIT

PAPER NUMBER

2883

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/726,026

Applicant(s)

HE ET AL.

Examiner

Erin D. Chiem

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-9 and 13-24 is/are pending in the application.
- 4a) Of the above claim(s) 3, 5, 7, 14, 15, 22 and 24 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13, 16-21 and 23 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6, 8 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This office action is in response to applicant's amendment filed on December 26, 2006. Currently, claims 1-3, 5-9, 13-24 are pending, claims 3, 5, 7, 14-15, 22, and 24 are withdrawn, claims 4 and 10-12 are canceled.

The objection to claim 1 is withdrawn.

The drawings are accepted.

The amendment to the base claims substantially changed the scope of the invention.

Examiner hereby provides new grounds of rejection in light of the amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-2, 6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cao et al. (US 2002/0031324 A1) in view of Chen et al. (US 6,647,173 B2).

Cao discloses the operation of variable optical attenuator (VOA) that is exemplified in Fig. 3a and used in a system such as the one shown in Fig. 1. The VOA comprises an input fiber 402 and output fiber 406; a reflector, the reflector positioned to reflect a part of the input optical beam at said reflective surface 302 as a reflected optical beam and to transmit a part of the input optical beam as a transmitted optical beam; a detector (204) positioned to receive the transmitted

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optical beam and to produce a detector output [0030]; a VOA positioned in the optical path between said reflective surface and one of said input and said output fibers to attenuate light in response to a control signal; said VOA comprising said input fiber 402 and said output fiber 406 both having exposed fiber ends adjacent to each other and a reflective shutter placed in front of at least one of said input or said output fiber, said reflective shutter supported by a current carrying wire perpendicular to a magnetic field such that said reflective shutter on said current carrying wire is responsive to the magnetic field produced by said current carrying wire and said magnetic field [0031]; said control signal being coupled to the current in said current carrying wire.

However, Cao does not disclose the reflector is stationary.

Chen discloses an input fiber (11) to guide an input optical beam; a **stationary reflector** (22) having a reflective surface that is partially transmissive to light, said reflector positioned to reflect a part of the input optical beam and to transmit a part of the input optical beam as a transmitted optical beam; an output fiber (14) positioned to receive and guide the reflected optical beam as an output optical beam; a magnetic field substantially axial to said input of said output optical fiber; a variable optical attenuator (21) positioned in an optical path between said reflective surface and one of said input and said output fibers to attenuate light in response to a control signal (23); said variable optical attenuator comprising a movable shutter (231) placed between said input and said output fiber and said stationary reflector, said movable shutter interacting with said optical beam.

It would have been obvious to one having ordinary skill in the art to recognize that the device of Chen's invention may be used interchangeably with the variable optical attenuator of

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Cao's embodiments in Fig. 3-5b. Chen discloses the **motivation** to maintain a stationary reflector is to provide one less optical component to maintain alignment and the instant arrangement reduces insertion loss as opposed to the prior art arrangements (col. 1 line 34 to col. 2, line 37).

Claim 2, as rejected above, Cao further teaches the detector receives the output indicates a power level of the output optical beam (Para [0056]).

Claim 6, as rejected above, Chen's attenuator attenuates light by reflecting light (21).

Claim 8, as rejected above, Chen's device is held within a housing (30).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cao and Chen as applied to claim 1 above, and further in view of Gage et al. (US 2003/0081901).

Cao and Chen discloses the invention of claim 1, however, they did not disclose a housing has a first end to hold said **optical detector** and said reflection and a second, opposing end to hold said input and said output fibers.

Gage discloses a housing to hold said optical detector (Fig. 4, '324') in one end, reflector, said variable optical attenuator,, and said input and output fibers in an opposing end (Fig. 4).

It would have been obvious to one having ordinary skill in the art to recognize that integrating the aforementioned optical elements into an integrated housing would be beneficial since the **motivation** for such integration is to reduce the overall variable optical attenuator size.

Allowable Subject Matter

Claims 13, 16-21, and 23 are allowable over the updated prior art search. Examiner finds no motivation to replace the stationary reflector with a stationary collimator lens having a flat end lens facet in said housing to face said optical detector; further comprising a magnet in said housing.

Response to Arguments

Applicant's arguments with respect to claims 1-2, 6, and 8-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin D. Chiem whose telephone number is (571) 272-3102. The examiner can normally be reached on Monday - Thursday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Erin D Chiem
Examiner
Art Unit 2883



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